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Jawaharlal Nehru

**“Step Out From the Old to the New”**

IS 4569-4 (1985): Scissors, Eye, Part 4: Scissors, Enucleation [MHD 5: Ophthalmic Instruments and Appliances]

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Bhartṛhari—Nītiśatakam

**“Knowledge is such a treasure which cannot be stolen”**





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*Indian Standard*

SPECIFICATION FOR  
SCISSORS, EYE

PART 4 SCISSORS, ENUCLEATION

( *Second Revision* )

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INDIAN STANDARDS INSTITUTION  
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG  
NEW DELHI 110002

*Indian Standard*SPECIFICATION FOR  
SCISSORS, EYE

## PART 4 SCISSORS, ENUCLEATION

## ( Second Revision )

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SHRI Y. P. KALELKER ( *Alternate* )

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DR D. L. MARIA Directorate of Medical Education and Research, Bombay

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( Continued on page 2 )

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# *Indian Standard*

## SPECIFICATION FOR SCISSORS, EYE

### PART 4 SCISSORS, ENUCLEATION

( *Second Revision* )

#### 0. FOREWORD

**0.1** This Indian Standard ( Part 4 ) ( Second Revision ) was adopted by the Indian Standards Institution on 25 November 1985, after the draft finalized by the Eye Surgery Instruments Sectional Committee had been approved by the Consumer Products and Medical Instruments Division Council.

**0.2** This standard was first published in 1968 and revised in 1977. The present revision has been taken up to include certain modifications in order to bring the specification in line with the modern manufacturing practices. In the revised standard the non-functional dimensions have been rounded off. The tolerance for the functional dimensions have been modified keeping in view the present manufacturing technique. A clause on sampling and Inspection has been added. The test methods have been brought in line with the test methods covered in other similar standards of eye surgery instruments.

**0.3** For the purpose of deciding whether a particular requirements of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS : 2-1960\*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

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#### 1. SCOPE

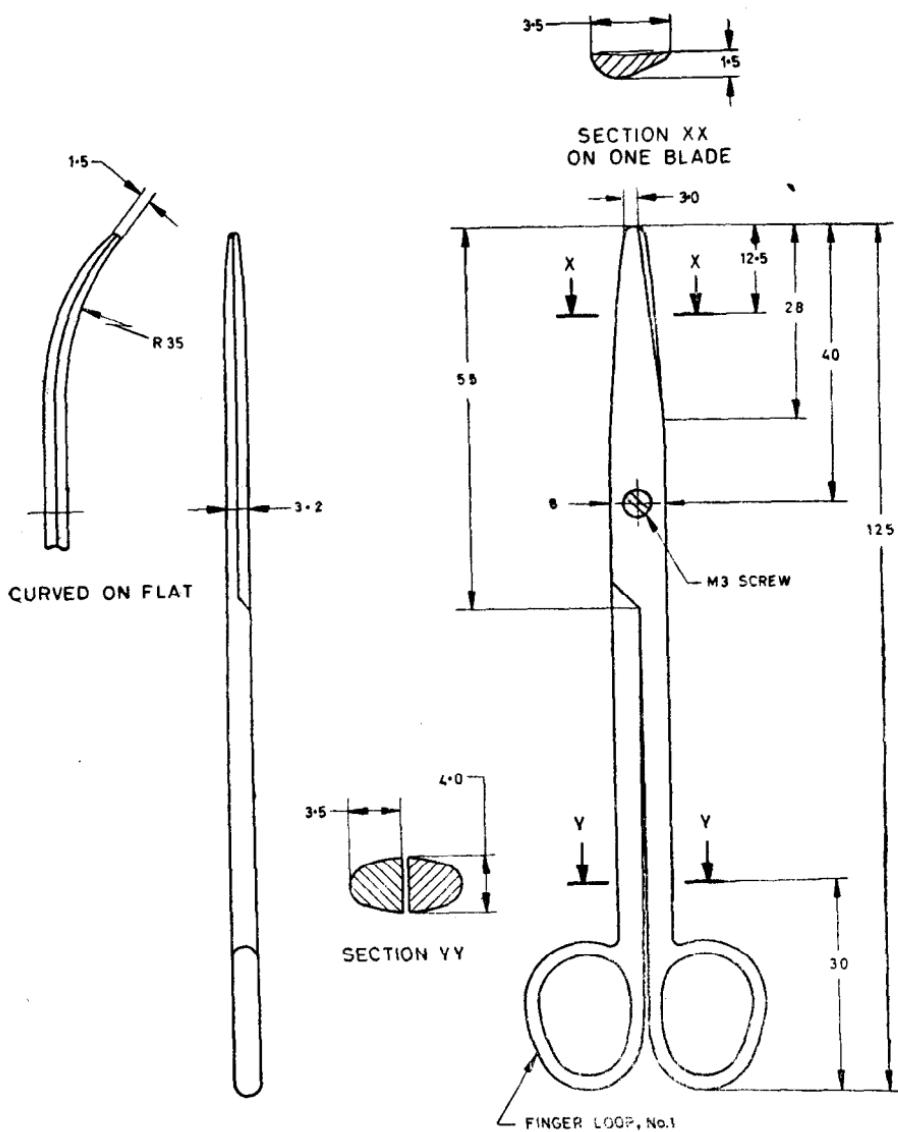
**1.1** This standard ( Part 4 ) covers dimensional and other requirements for enucleation scissors used in eye surgery.

#### 2. SHAPE AND DIMENSIONS

**2.1** The shape and dimensions of the scissors shall be as shown in Fig. 1.

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\*Rules for rounding off numerical values ( revised ).



All dimensions in millimetres.

FIG. 1 SCISSORS, ENUCLEATION

**2.2** A deviation of  $\pm 2.5$  percent shall be allowed on all dimensions.

### **3. MATERIAL**

**3.1** The material for scissors shall be stainless steel conforming to Designation 40Cr13 of IS : 6603-1972\*.

**3.2** The material for screw shall be stainless steel conforming to Designation 20Cr13 of IS : 6603-1972\*.

### **4. REQUIREMENTS**

**4.1** The finger loops shall conform to IS : 3642-1978†.

**4.2** The joints shall be of screw-recessed type conforming to IS : 3642-1978†.

**4.3** The scissors shall be free from cracks, seams, burrs, flaws, pits and other defects.

**4.4** The scissors shall be symmetrical and well-balanced.

**4.5** The blades shall close fully and freely with a continuous pinch, without stiffness and excessive cross-over action. There shall be no play at the joint in closed position.

**4.6** The edges shall be even and rounded except for the cutting edge which shall be sharp.

**4.7** The cutting edge shall not have any feather and nick.

**4.8** The scissors shall be polished bright and passivated.

### **5. HARDNESS**

**5.1** The scissors shall be hardened and tempered to give a hardness of 550 to 600 HV.

### **6. TESTS**

**6.1 Performance** — The whole length of the cutting edges including the tips shall cut wet tissue paper, teased out cotton wool, fine hair, frayed lint and chamois leather accurately and cleanly, when worked with either right or left hand.

**6.2 Corrosion Resistance** — The scissors shall be tested in accordance with the method covered in IS : 7531-1975‡. The scissors shall not show any sign of corrosion after the test.

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\*Specification for stainless steel bars and flats.

†General requirements for surgical instruments (*first revision*).

‡Method for boiling and autoclaving test for corrosion resistance of stainless steel surgical instruments.

## **7. SAMPLING AND CRITERIA FOR CONFORMITY**

**7.1** A suitable sampling scheme and criteria for acceptance is given in Appendix A.

## **8. MARKING**

**8.1** Each scissors shall be legibly and indelibly marked with the manufacturer's name, initials or recognized trade-mark and in addition the words 'Stainless Steel' or letters 'SS'.

**8.1.1** The scissors may also be marked with ISI Certification Mark.

**NOTE** — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

## **9. PACKING**

**9.1** As agreed to between the purchaser and the supplier. The working end shall be suitably protected.

## **A P P E N D I X A** *( Clause 7.1 )*

### **SAMPLING AND CRITERIA FOR CONFORMITY FOR SCISSORS**

#### **A-1. LOT**

**A-1.1** In any consignment, all the scissors produced from the same material under similar conditions shall constitute a lot.

**A-2.** The number of scissors to be selected from each lot shall depend upon the size of the lot and shall be in accordance with col 1 and 2 of Table 1.

**A-2.1** These scissors shall be selected from the lot at random and in order to ensure the randomness of selection, procedures given in IS : 4905-1968\* may be followed.

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\*Methods for random sampling.

**A-3. NUMBER OF TESTS AND CRITERIA FOR CONFORMITY**

**A-3.1** All the scissors selected at random in accordance with col 1 and 2 of Table 1 shall be tested for shape and dimensions, requirements, hardness, performance test and corrosion resistance. A scissor shall be considered as defective if it fails to meet any one or more of these requirements. A lot shall be considered as conforming to these requirements if none of the scissors in the sample is found to be defective in any of these tests.

**TABLE 1 SCALE OF SAMPLING**( *Clauses A-2 and A-3.1* )

LOT SIZE (1)	SAMPLE SIZE (2)
Up to 15	2
16 " 50	3
51 " 150	5
151 and above	8

# INTERNATIONAL SYSTEM OF UNITS ( SI UNITS )

## Base Units

QUANTITY	UNIT	SYMBOL
Length	metre	m
Mass	kilogram	kg
Time	second	s
Electric current	ampere	A
Thermodynamic temperature	kelvin	K
Luminous intensity	candela	cd
Amount of substance	mole	mol

## Supplementary Units

QUANTITY	UNIT	SYMBOL
Plane angle	radian	rad
Solid angle	steradian	sr

## Derived Units

QUANTITY	UNIT	SYMBOL	DEFINITION
Force	newton	N	1 N = 1 kg.m/s <sup>2</sup>
Energy	joule	J	1 J = 1 N.m
Power	watt	W	1 W = 1 J/s
Flux	weber	Wb	1 Wb = 1 V.s
Flux density	tesla	T	1 T = 1 Wb/m <sup>2</sup>
Frequency	hertz	Hz	1 Hz = 1 c/s (s <sup>-1</sup> )
Electric conductance	siemens	S	1 S = 1 A/V
Electromotive force	volt	V	1 V = 1 W/A
Pressure, stress	pascal	Pa	1 Pa = 1 N/m <sup>2</sup>